

REMARKS/ARGUMENTS

Status of the Claims

Upon entry of the present amendment, claims 32-40 are pending. Claims 32-33 are amended.

Claim 32 is amended to set forth that the probe is in the shape of a plate or strip. This amendment finds support, for example, in Figures 1 and 2 and in the legends on page 14, lines 8-18 of the specification. Claim 32 also is amended to recite that the adsorbent is covalently attached to the substrate. This amendment finds support in the specification at, for example, page 29, lines 3-9. Applicants respectfully submit that these amendments add no new matter and request the Examiner to enter them.

Claim 33 is amended to set forth that the linear axis is of the probe.

Telephonic Interview

Applicants thank the Examiner for graciously granting the telephonic interview of November 22, 2005. During the interview, the Examiner stated that Applicants' argument that Zare did not teach a single analyte having a binding characteristic that varies in a continuous gradient was generally persuasive (*see*, Interview Summary mailed December 19, 2005).

Rejection under 35 U.S.C. § 112, second paragraph

The Examiner has rejected claim 33 under 35 U.S.C. § 112, second paragraph, as allegedly lacking antecedent basis. In response, Applicants have amended claim 33 in accordance with the Examiner's suggestion to set forth that the linear axis is of the probe.

Rejection under 35 U.S.C. § 102(b)

Claims 32-33 and 39-40 stand rejected under 35 U.S.C. § 102(b) as allegedly anticipated by U.S. Patent No. 4,988,879 ("Zare"). The Examiner stated that Zare showed a substrate (metal clamp) having a flat surface and adsorbent (e.g., "inorganic oxidic material")

bound to the surface, the adsorbent having a binding characteristic for binding an analyte, wherein the binding characteristic varies in a continuous gradient along one or more linear axes of the probe (Figure 8, sample 802).

Applicants have amended independent claim 32 to recite that the substrate of this invention is in the shape of a plate or a strip. To the extent that this rejection applies to the amended claims, Applicants respectfully traverse.

Zare failed to disclose several elements of the claimed invention as amended. Claim 32 recites a substrate in the shape of a plate or a strip having a flat surface. Referring to Zare, Figures 3 and 7, metallic clamp 301, which the Examiner alleges corresponds to a “substrate” of this invention, is not a plate or strip, but rather is cup-shaped. Nor does it possess a flat surface.

Claim 32 further recites that the flat surface has an adsorbent covalently bound to the surface. The Examiner identified the “inorganic oxidic material” of Zare as an adsorbent bound to surface of the substrate. An example of an “inorganic oxidic material” of Zare is the glass cup 101 of Figure 3. However, Zare does not state that the glass material is covalently attached to the metal clamp, but rather that the cup is “mounted” in clamp 301. (Zare, column 11, lines 47-50 and Figures 3 and 7) Therefore, the glass material is not covalently bound to a surface, as claim 32 requires.

Claim 32 further requires that a binding characteristic of the adsorbent varies in a continuous gradient along one or more linear axes of the probe. The Examiner cited the spiral sample 802 of Figure 8 as corresponding to this element. Applicants note that the Examiner previously referred to the glass cup as the adsorbent, not the sample. In any case, the spiral fails to satisfy the gradient element of claim 32 for several reasons. First, Applicants submit that a sample dripped on a surface is not an “adsorbent” as that term is used in the specification. Second, the sample is not covalently bound to the surface. Third, there is absolutely no indication in Zare that any aspect of the glass cup varies in a continuous gradient along any axis.

The Examiner took issue with the impact of the term “removably insertable into a laser desorption mass spectrometer.” While the term it is not necessary for patentability in view of the art cited, Applicants assert that the term “removably insertable into a laser desorption/ionization mass spectrometer” does have patentable weight because such a probe must have mechanical elements that configure it to mate with a probe holder of a mass spectrometer.

For these reasons, Applicants assert that Zare did not show each and every element of claim 32 as amended and, therefore, did not anticipate claim 32.

Rejection under 35 U.S.C. § 103(a)

Claims 34-38 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Zare in view of Hutchens. The Examiner stated that Hutchens and Yip showed anion exchange adsorbents, hydrophilic adsorbents, hydrophobic adsorbents and metal chelate adsorbents. Applicants traverse.

As described above, Zare failed to show several elements of the independent claim from which claims 34-38 depend, including a substrate with a flat surface, an adsorbent covalently bound to the surface, and a binding characteristic forming a gradient. Without acceding to the Examiner’s interpretation of Hutchens and Yip, Applicants point out that none of the elements the Examiner identified there includes the elements missing from claim 32. Because the combination of the references did not show every element of the claims, that combination could not have rendered the claims obvious.

For these reasons, Applicants respectfully request the Examiner to withdraw the rejections for anticipation and for obviousness.

Double Patenting Rejections

Claims 32-33 and 39-40

The Examiner has rejected claims 32-33 and 39-40 under the judicially created doctrine of obviousness-type double patenting as allegedly obvious over claims 15 and 18 of U.S. Patent No. 5,719,060 in view of Zare.

This rejection is respectfully traversed. As the Examiner concedes on page 5 of the present Official Action, Claim 15 (and 18) does note recite a probe having a binding characteristic that varies in a continuous gradient along one or more axes of the probe. For the reasons discussed above, Zare did not disclose or suggest the elements of claim 32 missing from Claims 15 and 18 of the '060 patent.

Accordingly, the Examiner is respectfully requested to withdraw this rejection.

Claims 34-38

The Examiner has rejected claims 34-38 under the judicially created doctrine of obviousness-type double patenting as allegedly obvious over claims 15 and 18 of U.S. Patent No. 5,719,060 in view of Zare and further in view of Hutchens & Yip (WO 94/28418).

This rejection is respectfully traversed. As the Examiner concedes on page 5 of the present Official Action, Claim 15 (and 18) does note recite a probe having a binding characteristic that varies in a continuous gradient along one or more axes of the probe. For the reasons discussed above, neither Zare nor Hutchens & Yip disclose or suggest the elements of claim 32 missing from Claims 15 and 18 of the '060 patent.

Accordingly, the Examiner is respectfully requested to withdraw this rejection.

Appl. No. 10/626,303
Amdt. dated January 24, 2006
Amendment under 37 CFR 1.116 Expedited Procedure
Examining Group 1641

PATENT

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance and an action to that end is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 415-576-0200.

Respectfully submitted,



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Attachments
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